

CLAIMS

1. An integral piston for use in a compressor having cylinder bores in which the piston outer surface makes close sliding contact with the cylinder bore, and in which the piston outer surface lies on a cylindrical outer envelope with a central axis A and is comprised of a front end F, a back end B, a semi cylindrical outer surface portion O, a semi cylindrical outer surface portion I diametrically opposed thereto, and a diametrically opposed pair of semi cylindrical surface portions S, said inner I and outer O surface portions being bisected by a central plane P through said central piston axis A, said piston comprising,
 - a disk shaped head with an outer surface lying generally on F,
 - a disk shaped foot lying generally on B,
 - a intermediate support disk located axially between the head and foot formed generally perpendicular to the central plane P,
 - a first generally C shaped, arcuate cross section side wall extending axially between the intermediate support disk and the foot and having an outer surface that extends circumferentially substantially to the central plane P, so as to lie on one outer surface portion S as well as one approximately half of the extent of the outer surface portions I and P,
 - a second generally C shaped, arcuate cross section side wall extending axially between the intermediate support disk and the head and having an outer surface that extends circumferentially substantially to the central plane P, so as to lie on the other outer surface portion S as well as one approximately half of the extent of the outer surface portions I and P,
 - a first generally planar support web internal to and integral with the first C shaped side wall, extending axially between the intermediate support disk and the foot perpendicular the intermediate support disk, and,
 - a second generally planar support web internal to and integral with the second C shaped side wall, extending axially between the intermediate support disk and the head perpendicular to the intermediate support disk.

2. An integral piston according to claim 1, in which in which the arcuate walls extend past the central plane sufficiently to form overlapping areas laying on the surface area portions I and O.

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3. A integral piston according to claim 1, in which the support webs are also oriented perpendicular to the central plane P